

WHAT IS CLAIMED IS:

1           1.       A device for processing a direct-current-supplied or permanently magnetic  
2 component, comprising:

3               positioning means that position the component to be processed in a processing position ;  
4               magnetic field generation means for generating a magnetic field that generates forces  
5 that act contactless on the component and in this way bring about or support the positioning  
6 of the component.

1           2.       The device as claimed in Claim 1, wherein the magnetic field generation means  
2 are constructed so that the forces generated by the magnetic field counteract the force of the  
3 weight of the component.

1           3.       The device as claimed in Claim 2, wherein the magnetic field generation means  
2 are constructed in such a way that the size of the forces generated by the magnetic field are  
3 such that they essentially compensate a gravity-induced bending of the component at least in  
4 a section to be processed.

1           4.       The device as claimed in Claim 1, wherein the magnetic field generation means  
2 are constructed in such a way that the component is positioned contactless in its processing  
3 position in at least one section to be processed.

1           5.       The device as claimed in Claim 1, wherein the magnetic field generation means  
2 are constructed in such a way that the forces generated by the magnetic field have components  
3 that are oriented transversely to the force of gravity and act symmetrically on the component  
4 and center it.

1           6.       The device as claimed in Claim 1, wherein the magnetic field generation means  
2 are provided with an electrical conductor arrangement of at least one electrical conductor,  
3 whereby the conductor arrangement is connected to a power supply and extends below or  
4 above the component in the same direction as the component, and

5           that the magnetic field generation means are provided with electrical connection means,  
6           with which the component can be connected to a power supply, whereby for the positioning  
7           of the component in its processing position the conductor arrangement and the component are  
8           supplied with power in such a way that between the component and the conductor arrangement  
9           a repelling force or attractive force is generated, which brings about or supports the  
10          positioning of the component.

1           7.       The device as claimed in Claim 6, wherein the conductor arrangement is  
2           constructed in the form of a coil around a core of ferromagnetic material, preferably ferritic  
3           steel.

1           8.       The device as claimed in Claim 1, wherein the positioning means are provided  
2           with holding means that fix the component to be processed at its end sections in its processing  
3           position.

1           9.       The device as claimed in Claim 8, wherein the holding means at the same time  
2           form the electrical connection means.

1           10.      The device as claimed in Claim 1, wherein the component is an electrical  
2           conductor or conductor bundle.

1           11.      The device as claimed in Claim 1, wherein the component is an electrical  
2           conductor or conductor bundle of a rotating electrical machine.

1           12.      The device as claimed in Claim 1, wherein the processing of the component  
2           includes the production of an electrical insulation of the component.

1           13.      The device as claimed in Claim 1, wherein the processing of the component  
2           includes a spraying process for producing a coating of the component.

1           14. A method for producing a coating on an electrically conductive component,  
2 comprising the following steps:

3           inserting the component into a holder that fixes the component outside a section to be  
4 coated;

5           enabling of magnetic field generation means for generating a magnetic field that  
6 generates forces that act contactless on the component in such a way that the component floats  
7 freely at least in the section to be coated; and

8           coating the component.

1           15. The method as claimed in Claim 14, wherein the magnetic field generation  
2 means are provided with electrical connection means and an electrical conductor arrangement  
3 of at least one electrical conductor that extends below or above the component in the direction  
4 of the component, whereby, prior to the enabling step, the component is connected outside of  
5 the section to be coated with end sections by way of the electrical connection means, and  
6 whereby the enabling of the magnetic field generation means is performed by way of a parallel  
7 or anti-parallel power supply to the conductor arrangement and component.

1           16. The method as claimed in Claim 15, wherein the number, arrangement, and  
2 shape of the electrical conductor of the conductor arrangement is chosen so that the generated  
3 magnetic field essentially compensates the gravity-induced bending of the component at least  
4 in the section to be coated.

1           17. The method as claimed in Claim 15, wherein the number, arrangement, and  
2 shape of the electrical conductor of the conductor arrangement is chosen so that the generated  
3 magnetic field centers the component transversely to its extension direction and transversely  
4 to the force of gravity.

1           18. The method as claimed in Claim 14, wherein support means are provided that  
2 support the component at least in the section to be coated against gravity-induced bending,  
3 whereby these support means are removed or disabled during the coating step.